

Application/Control Number: 09/700,443
Art Unit: 1700

Page 2

CLMPTO

W.M.

09/17/04

Claims 1-8. (canceled)

Claim 9. (new) An aqueous cathodically depositable coating composition comprising an additive comprising homopolymers or copolymers comprising 2-ethyl hexyl acrylate,

wherein the proportion by mass of comonomers in a monomer mixture used for the preparation of the copolymers does not exceed 35%; the proportion by mass of the homopolymer or copolymer of 2-ethyl hexyl acrylate in a solid resin of the coating composition is 0.5 to 5%; and the comonomers are selected from linear, cyclic or branched alkyl acrylates having 1 to 18 carbons in the alkyl radical and linear, cyclic or branched hydroxyalkyl acrylates having 2 to 6 carbon atoms in the hydroxyalkyl radical.

Claim 10. (new) The aqueous cathodically depositable coating composition according to claim 9, wherein the proportion by mass of the comonomers in the monomer mixture used for the preparation of the copolymer does not exceed 25%.

Claim 11. (new) The aqueous cathodically depositable coating composition according to claim 9, wherein the proportion by mass of the homopolymer or copolymer of 2-ethyl hexyl acrylate in the solid resin of the coating is 0.9 to 1.8%.

Claim 12. (new) The aqueous cathodically depositable coating composition according to claim 9, wherein the comonomers are selected from linear, cyclic or branched alkyl acrylates having 1 to 6 carbons in the alkyl radical.

Claim 13. (new) The aqueous cathodically depositable coating composition according to claim 9, wherein the linear, cyclic or branched hydroxyalkyl acrylates having 2 to 4 carbon atoms in the hydroxyalkyl radical.

Claim 14. (new) The aqueous cathodically depositable coating composition according to claim 9, wherein the homopolymer has a limiting viscosity number of 1.5 to 12 cm³/g.

Claim 15. (new) The aqueous cathodically depositable coating composition according to claim 14, wherein the homopolymer has a limiting viscosity number of 3.5 to 7 cm³/g.

Claim 16. (new) The aqueous cathodically depositable coating composition according to claim 9, wherein the homopolymers or copolymers comprising 2-ethyl hexyl acrylate are in the form of solution polymers.

Claim 17. (new) A process for preparing cathodically depositable coating compositions comprising an additive comprising homopolymers or copolymers of 2-ethyl hexyl acrylate, the process comprising adding the homopolymers or copolymers to a binder resin before the latter is emulsified in water.

Claim 18. (new) A process for preparing cathodically depositable coating compositions comprising an additive comprising homopolymers or copolymers of 2-ethyl hexyl acrylate in the form of solution polymers, the process comprising dispersing the homopolymers or copolymers in water in the presence of an emulsifier, and then adding the dispersion to the aqueous cathodically coating composition.

Claim 19. (new) An aqueous coating composition comprising cathodically depositable binders and a homopolymer or copolymer of 2-ethyl hexyl acrylate, the cathodically depositable binder comprising a reaction product of an epoxy resin and an amine.

Claim 20. (new) A process for coating electrically conductive substrates comprising:

- a.) dipping a substrate in an aqueous electro-dipcoating bath which contains at least one cathodically depositable synthetic resin;**
- b.) applying an electrical voltage that is greater than the deposition voltage of the synthetic resin, wherein the substrate is connected as the cathode;**
- c.) depositing a film of the synthetic resin on the substrate, as a result of a flow of direct current;**
- d.) removing the substrate from the bath;**
- e.) optionally rinsing of the substrate; and**
- f.) stoving the deposited coating film onto the substrate, wherein the electro-dipcoating bath contains a homopolymer or copolymer of 2-ethyl hexyl acrylate.**

Claim 21. (new) The process according to claim 20, wherein the electro-dipcoating bath contains an epoxy-amine adduct as the cathodically depositable synthetic resin.

Claim 22 (cancelled)

Claim 23. (new) An electro-dipcoating bath containing the aqueous cathodically depositable coating composition according to claim 9.